

Application No. 10/527,241
Amendment Dated: September 28, 2010
Reply to Office Action of: August 17, 2010

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Submitted) A mouse for a computer system, said mouse capable of entering commands into a computer based on the location of a cursor which can be placed on a computer screen, when moving said mouse across a working surface, and being actuatable by a user to generate a signal to said computer, said mouse comprising:

a casing having a bottom part resting on the working surface and an upper part, said casing longitudinally extending from a front end to a rear end and having transversely spaced sides, which are spaced so that said casing is positioned between distal phalanxes of a user's ring and little fingers, and a distal phalanx of a user's thumb, when a user's lower palm, user's ring and little fingertips, and a side of the distal phalanx of the user's thumb are resting on the working surface without gripping said mouse at a naturally relaxed curled fingers and hand position;

a primary button disposed at an upper front portion of said casing so as to be actuated by a user's index finger, said primary button having an upper surface, which is angled to the front end of said casing; and

a primary fingertip receptacle at least partially extending upwardly from said angled upper surface of said primary button and forming a mould around a

user's index fingertip, when placed on said angled upper surface of said primary button slightly bent, said mould being tapered upwardly from said angled upper surface of said button at a height, which provides a moulded contact surface with said user's index fingertip, which allows the user to move securely said mouse in a forward or backward direction without actuating said primary button by said index fingertip, when moving said index fingertip forward or backward against said moulded contact surface by stretching or bending said index finger in order to effect vertical movement of a pointer on a computer screen in up- or downward direction, respectively, said primary fingertip receptacle enabling a user to effect horizontal movement of a pointer on a computer screen without the use of hand or arm movement of the user, when turning said casing around its axis in said receptacle, when pushing by a thumb or a little finger of the user against a respective contact area on a respective side of said casing, when operating said mouse, said primary button being actuated without actuating mouse movement by a force applied tangential to said angled upper surface of said primary button by said index fingertip, when stroking by said index fingertip said angled upper surface of said primary button in a combined down-forward motion against said moulded contact surface.

2. (Previously Submitted) The mouse of claim 1 further comprising:

a secondary button disposed transversely of said primary button at an upper front portion of said casing so as to be actuated by a user's middle finger,

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said secondary button having an upper surface, which is angled to the front end of said casing;

a secondary fingertip receptacle at least partially extending upwardly from said angled upper surface of said secondary button and forming a mould around a user's middle fingertip, when placed on said angled upper surface of said secondary button slightly bent, said mould being tapered upwardly from said angled upper surface of said button at a height, which provides a moulded contact surface with said user's middle fingertip, which allows the user to move securely said mouse in a forward or backward direction without actuating said secondary button by said middle fingertip, when moving said middle fingertip forward or backward against said moulded contact surface by stretching or bending said middle finger in order to effect vertical movement of a pointer on a computer screen in up- or downward direction, respectively, said secondary fingertip receptacle enabling a user to effect horizontal movement of a pointer on a computer screen without the use of hand or arm movement of the user, when turning said casing around its axis in said receptacle, when pushing by a thumb or a little finger of the user against a respective contact area on a respective side of said casing, when operating said mouse, said secondary button being actuated without actuating mouse movement by a force applied tangential to said angled upper surface of said secondary button by said middle fingertip, when stroking by said middle fingertip said angled upper surface of said secondary

button in a combined down-forward motion against said moulded contact surface;
and

a form of a rear part of said casing providing sufficient clearance between an upper surface and a rear surface of said casing, and a user's palm plane, and said user's index and middle fingers being placed in said respective receptacle slightly bent, and a lower palm resting on said working surface, so that said upper surface and said rear surface of said casing do not interfere with said user's palm plane, said lower palm resting on said working surface, and said user's index and middle fingers, when the user manipulates said mouse, said form of said rear part of said casing enabling a user to shift said mouse from a neutral position of said user's index and middle fingers, when placed in said respective receptacle slightly bent, by bending said user's index and middle fingers further into a pocket formed by the user's hand, when a user's lower palm, user's ring and little fingertips, and a side of the distal phalanx of the user's thumb are resting on the working surface without gripping or pinching said mouse at a naturally relaxed curled fingers and hand position, so that said mouse does not interfere with said user's palm plane and said user's lower palm resting on said working surface.

3. (Original) The mouse of claim 2 further comprising a wheel button disposed between the primary receptacle and the secondary receptacle, said wheel button accessible by at least one of the user's finger when a user's index

finger and a user's middle finger are placed in the respective receptacle of the primary and secondary buttons.

4. (Original) The mouse of claim 2, wherein the primary and secondary receptacles are located on the primary button and the secondary button, respectively, so that a gap between the user's index finger and the user's middle finger being placed in the respective receptacles has a spacing distance, which allows a wheel button to be positioned between them.

5. (Original) The mouse of claim 3, wherein each said receptacle has a front portion and a center of said wheel is disposed rearwardly from the front portions of said receptacles.

6. (Previously Submitted) The mouse of claim 1, wherein said primary receptacle is formed from a moulded component comprising a pad and a rounded section, which tapers upwardly from the pad and is symmetric about a medial plane.

7. (Previously Submitted) The mouse of claim 2, wherein said secondary receptacle is formed from a moulded component comprising a pad and a rounded section, which tapers upwardly from the pad and is symmetric about a medial plane.

8. (Previously Submitted) The mouse of claim 4, wherein the user's index and middle fingertips being placed in respective receptacles are elevated from the working surface at a height, which is reduced and defined by an outside diameter of said wheel.

9. (Previously Submitted) The mouse of claim 1, wherein the sides of said casing each have a concave shape, which define a user's thumb, and a user's ring and little fingertips pinching areas.

10. (Previously Submitted) The mouse of claim 9, wherein both sides of said casing in a user's thumb and a user's ring fingertip pinching areas are vertical to the working surface over which the mouse moves.

11. (Original) The mouse of claim 9, wherein a user's side of the distal phalanx of the thumb and a user's ring and little fingertips being placed on the respective pinching areas register with the working surface over which the mouse moves when a user manipulates the mouse.

12. (Previously Submitted) The mouse of claim 2, wherein a space exists between the user's palm plane, and the user's index and middle fingers, and an upper surface of the rear part of the casing when the user shifts the mouse by

stretching or bending the user's index and middle fingers placed in the respective receptacles.

13. (Previously Submitted) The mouse of claim 2, wherein a length of the rear part of the casing measured from the front edge of said primary and secondary receptacles allows a user to shift the mouse from a neutral position of the user's index and middle fingers, when placed in said respective receptacle slightly bent, by bending the user's index and middle fingers further in a pocket formed by the user's hand, when a user's lower palm, user's ring and little fingertips, and a side of the distal phalanx of the user's thumb are resting on the working surface without gripping or pinching said mouse at a naturally relaxed curled fingers and hand position, so that said mouse does not interfere with the user's lower palm resting on said working surface.

14. (Previously Submitted) The mouse of claim 1, wherein a moulded contact surface is at least partially defined by at least one additional button having a user's index finger contact area and disposed rearwardly from said primary receptacle so as to be capable of being actuated by bending the user's index finger positioned in said primary receptacle and simultaneously pinching the mouse between a user's thumb and a user's ring and/or little fingertips.

15. (Previously Submitted) The mouse of claim 14, wherein a contact portion of the primary receptacle and the index finger contact area of the additional button together form a contact shape that conforms to the shape of the distal phalanx of the user's index finger.

16. (Previously Submitted) The mouse of claim 15, wherein a surface of the contact portion of the primary receptacle is level with a surface of the index finger contact area of the additional button at all points along a boundary between the primary receptacle and the index finger contact area of the additional button.

17. (Original) The mouse of claim 14, wherein an interior portion of the distal phalange of the user's index finger contacts both a front portion of said primary receptacle and a portion of the contact area of the additional button when the user's index fingertip is positioned in said primary receptacle.

18. (Original) The mouse of claim 14, wherein said additional button is actuated by bending the index finger and simultaneously pinching the sides of the mouse between the user's thumb and the user's ring and/or little fingertips.

19. (Previously Submitted) The mouse of claim 2, wherein a moulded contact surface is at least partially defined by a second additional button having a middle finger contact area and disposed rearwardly from said secondary receptacle so

as to be capable of being actuated by bending the user's middle finger positioned in said secondary receptacle and simultaneously pinching the mouse between a user's thumb and a user's ring and/or little fingertips.

20. (Previously Submitted) The mouse of claim 19, wherein a contact portion of the secondary receptacle and the middle finger contact area of the second additional button together form a contact shape that conforms to the shape of the distal phalanx of the user's middle finger.

21. (Previously Submitted) The mouse of claim 20, wherein a surface of the contact portion of the secondary receptacle is level with a surface of the middle finger contact area of the second additional button at all points along a boundary between the secondary receptacle and the middle finger contact area of the second additional button.

22. (Original) The mouse of claim 19, wherein an interior portion of the distal phalange of the user's middle finger contacts both a front portion of said secondary receptacle and a portion of the contact area of the second additional button when the user's middle fingertip is positioned in said secondary receptacle.

23. (Original) The mouse of claim 19, wherein said second additional button is actuated by bending the middle finger and simultaneously pinching the sides of the mouse between the user's thumb and a user's ring and/or little fingertips.

24. (Previously Submitted) The mouse of claim 2, wherein said primary and secondary buttons each are parts of ends of levers, which longitudinally extend from a common plane of said casing on which other ends of the levers are firmly fixed.

25. (Previously Submitted) The mouse of claim 19, wherein said additional buttons each are supported by planes arranged on respective sides of said casing parallel to said common plane of said casing, said additional buttons each are capable of sliding on a respective plane and thereby allowing the user to actuate said additional buttons each by bending said user's index or middle finger positioned in respective receptacle and simultaneously pinching said mouse between said user's thumb and said user's ring and/or little fingertips.

26. (Canceled)

27. (Previously Submitted) The mouse of claim 24, wherein said casing has a cross panel in relation to said sides and said common plane of said casing is inclined toward said front end relative to said cross panel.

28. (Previously Submitted) The mouse of claim 1 further comprising a mouse sensing system wherein a sensor thereof is located on said bottom part rearwardly from said primary receptacle along a central longitudinal axis of said casing at a distance, which allows the user to effect horizontal cursor movement on a computer screen, when turning said casing around its axis in said primary receptacle, when pushing by the user's thumb or little finger against a respective contact area on a respective side of said casing.

29. (Previously Submitted) A computer mouse for a computer system, said mouse being capable of entering commands into a computer based on the location of a cursor which can be placed on a computer screen, when moving said mouse across a working surface, wherein said mouse has a casing resting on said working surface, said casing having at least one button disposed at an upper front portion thereof so as to be actuated by a user's finger to generate a signal to said computer, said mouse comprising:

a moulded structure mounted to an angled upper surface of said button, wherein said moulded structure at least partially extends upwardly from said angled upper surface of said button and forms a mould around a user's fingertip, when placed on said angled upper surface of said button slightly bent, said mould being tapered upwardly from said angled upper surface of said button at a height, which provides a moulded contact surface with said user's fingertip, which

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allows the user to move securely said mouse in a forward or backward direction without actuating said button by said index fingertip, when moving said index fingertip forward or backward against said moulded contact surface by stretching or bending said finger in order to effect vertical movement of a pointer on a computer screen in up- or downward direction, respectively, said moulded structure enabling a user to effect horizontal movement of a pointer on a computer screen without the use of the hand or arm movement of the user, when turning said casing around its axis in said mould, when pushing by a thumb or a little finger of the user against a respective contact area on a respective side of said casing, when operating said mouse, said button being actuated without actuating mouse movement by a force applied tangential to said angled upper surface of said button by said fingertip, when stroking by said index fingertip said angled upper surface of said button in a combined down-forward motion against said moulded contact surface.

30. (Previously Submitted) The mouse of claim 29, wherein said casing has two buttons disposed transversely of each other at an upper front portion of said casing so as to be actuated by a user's index or middle finger, said mouse further comprising:

a moulded structure mounted to an angled upper surface of each button, wherein one moulded structure at least partially extends upwardly from an angled upper surface of a primary button and forms a mould around a user's index

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fingertip, when placed on said angled upper surface of said primary button slightly bent, said mould being tapered upwardly from said angled upper surface of said button at a height, which provides a moulded contact surface with said user's index fingertip and a second moulded structure at least partially extends upwardly from an angled upper surface of a secondary button and forms a mould around a user's middle fingertip, when placed on said angled upper surface of said secondary button slightly bent, said mould being tapered upwardly from said angled upper surface of said button at a height, which provides a moulded contact surface with said user's middle fingertip, said moulded contact surfaces each allowing the user to move securely said mouse in a forward or backward direction without actuating said buttons each by said index or middle fingertip, when moving said index or middle fingertip forward or backward against said respective moulded contact surface by stretching or bending said index or middle finger in order to effect vertical movement of a pointer on a computer screen in up- or downward direction, respectively, said moulded structure enabling a user to effect horizontal movement of a pointer on a computer screen without the use of hand or arm movement of the user, when turning said casing around its axis in said mould, when pushing by user's thumb or little finger against a respective contact area on a respective side of said casing, when operating said mouse, said buttons each being actuated without actuating mouse movement by a force applied tangential to said angled upper surface of said button by one of said fingertip, when stroking by said respective fingertip said respective angled upper

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surface of said respective button in a combined down-forward motion against said respective moulded contact surface.